

CLAIMS:

1. An OLED device, comprising:
 - a) at least one light emitting layer arranged to produce light in
5 a predetermined emitting area;
 - b) a reflector and a semi-transparent reflector forming a microcavity structure for resonating the light produced in the at least one light emitting layer; and
 - c) a color filter element disposed relative to a first portion of
10 the predetermined emitting area so as to filter the light produced by the at least one light emitting layer and transmit substantially unfiltered light through a second portion of the predetermined emitting area.
2. The OLED device of claim 1 where the reflector, the semi-
15 transparent reflector, or both, also serve as electrodes for the light emitting layer.
3. The OLED device of claim 1 where the semi-transparent reflector is Ag or an alloy containing Ag.
- 20 4. The OLED device of claim 1 where the device is top emitting.
5. The OLED device of claim 1 where the device is bottom
25 emitting.
6. The OLED device of claim 1 wherein the color filter element includes spaced striped filtered portions.
7. The OLED device of claim 1 wherein the color filter
30 element includes openings in the color filter element to provide the unfiltered light.

8. A multicolor OLED device having an array of pixels which include different subpixels that emit different color light and wherein each subpixel comprises:

5 a) at least one light emitting layer arranged to produce light in a predetermined emitting area, wherein the light produced by each subpixel is a different color;

b) a reflector and a semi-transparent reflector forming a microcavity structure for resonating the light produced in the at least one light emitting layer; and

10 c) a color filter element disposed relative to a first portion of the predetermined emitting area so as to filter the light produced by the at least one light emitting layer and transmit substantially unfiltered light through a second portion of the predetermined emitting area.

15 9. The OLED device of claim 8 wherein the subpixels produce red, green, and blue light.

10 10. The OLED device of claim 8 where the reflector, the semi-transparent reflector, or both, also serve as electrodes for the light emitting layer.

11. The OLED device of claim 8 where the semi-transparent reflector is Ag or an alloy containing Ag.

25 12. The OLED device of claim 8 where the device is top emitting.

13. The OLED device of claim 8 where the device is bottom emitting.

14. The OLED device of claim 8 which further comprises active matrix circuitry to drive the subpixels.

5 15. The OLED device of claim 8 wherein the color filter element corresponding to at least one subpixel includes spaced striped filtered portions.

10 16. The OLED device of claim 8 wherein the color filter element corresponding to at least one subpixel includes openings in the color filter element to provide the unfiltered light.